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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/912,458	07/24/2001	Marco Carrer	50277-1735	5107

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EXAMINER

CAO, DIEM K

ART UNIT PAPER NUMBER

2194

DATE MAILED: 12/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/912,458	CARRER ET AL.	
	Examiner	Art Unit	
	Diem K. Cao	2194	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 July 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>1/15/2002</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-33 are presented for examination.

Claim Rejections - 35 USC § 101

2. Claims 1-33 are rejected under 35 U.S.C. 101 because

Claims 1-10 and 33 are directed to method claims. The languages of the claims raise a question as to whether the claim is directed merely to an abstract idea that is not tied to technological art, environment or machine which would result in a practical application producing a concrete, useful, and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101. Particularly, none of the steps require use of hardware to accomplish, thus the claims are non-statutory as not being tangible.

Claims 11-20 are directed to a computer-readable medium carrying one or more sequences instruction. Because the specification discloses the computer-readable medium also includes "carrier wave", "light waves" (page 19), the claims are not statutory because the medium is not limited to tangible mediums.

Claims 21-32 are directed to a system which recites only functional descriptive software modules and hence nonstatutory. Since a computer program is merely a set of instructions capable of being executed by a computer, the computer program itself is not a process, without the computer-readable medium needed to realize the computer program's functionality, is nonstatutory functional descriptive material.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1, 3-5, 7-8, 10-11, 13-15, 17-18, 20-21, 26, 28, 30 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Devine et al (U.S. 2002/0095399 A1).**

5. As to claim 1, Devine teaches receiving a request for the compound service that uses output from at least a first service and a second service (compound services; section 56, page 5 and section 63, page 6 and subscriber's request for the service; section 416, page 23), reading dependency information associated with the compound service wherein the dependency information specifies a sequence in which a plurality of functions must be executed to perform the compound service (section 510; page 30 and section 464; page 27), based on the dependency information, coordinating execution of the plurality of functions in the sequence, the modules including at least a first service execution functions for coordinating execution of the first service and a second service execution functions for coordinating execution of the second service (section 510; page 30 and section 464; page 27), and generating a result of the compound service based on the output from the first and second services (compound services; section 56, page 5 and section 63, page 6).

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6. However, Devine does not explicitly teach module. Devine teaches a set of functions is provided to run a service (section 464, page 27).

7. It would have been obvious to one of ordinary skill in the art at the time the invention was made to improve the system of Devine by implementing the set of functions as a module, thus when utilize the module or reuse of the module to execute the service by different applications would be simple.

8. As to claim 3, Devine teaches the step of coordinating execution of the first service includes coordinating execution of a second compound service that uses output from at least a third service and a fourth service (Analysis service, Retrieval services; section 56, page 5).

9. As to claim 4, Devine teaches the request for execution of the compound service is received from a source (subscriber's request for the service; section 416, page 23), and transmitting the result of the compound service to the source (inherently from the services are executed in response to the subscriber's request).

10. As to claim 5, Devine teaches the request for execution of the compound service is received from a source (subscriber's request for the service; section 416, page 23), and transmitting the result of the compound service to a destination different than the source (inherent from an Analysis service ... in its output; section 56, page 5. In this, result from the Retrieval services is returned to the Analysis services, not the user).

11. As to claim 7, Devine does not explicitly teach a splitter module must be executed to perform the compound service and the step of coordinating execution of the plurality of modules in the sequence includes coordinating execution of the splitter module to divide a message received by the splitter module into a plurality of messages. However, Devine teaches the Analysis service may use the output of one or more Retrieval services for input (section 56, page 5), i.e. a request for an Analysis service from the user will be analyzed and divide into multiple requests for multiple Retrieval services.

12. As to claim 8, Devine teaches the dependency information specifies a sequence in which a merger module must be executed to perform the compound service and the step of coordinating execution of the plurality of modules in the sequence includes coordinating execution of the merger module to merge a plurality of messages received by the merger module into a single message (inherent from an Analysis service ... output; section 56; page 5).

13. As to claim 10, Devine teaches the dependency information specifies a sequence in which one or more of the plurality of modules must executed concurrently to perform the compound service and the step of coordinating execution of the plurality of modules in the sequence includes coordinating concurrent execution of the one or more modules (compound services; section 56, page 5 and section 63, page 6 and section 510; page 30).

14. As to claims 11, 13-15, 17-18 and 20, see rejections of claims 1, 3-5, 7-8 and 10 above.

15. As to claim 21, Devine teaches a plurality of invokable set of functions, wherein at least a subset of the plurality of invokable set of functions are associated with services (a set of hard-coded core function; section 464, page 27), and a compound service execution adapter configured to coordinate execution of the invokable set of functions according to dependency information that specifies a sequence in which the plurality of invokable set of functions must be executed to perform a compound service in response to a received request for a compound service (compound services; section 56, page 5 and section 63, page 6 and subscriber's request for the service; section 416, page 23 and section 510; page 30).

16. However, Devine does not explicitly teach module. Devine teaches a set of functions is provided to run a service (section 464, page 27).

17. It would have been obvious to one of ordinary skill in the art at the time the invention was made to improve the system of Devine by implementing the set of functions as a module, thus when utilize the module or reuse of the module to execute the service by different applications would be simple.

18. As to claim 26, see rejection of claim 7 above.

19. As to claim 28, see rejection of claim 8 above.

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20. As to claim 30, Devine as modified teaches the plurality of invokable modules includes one or more service execution modules configured to interprets one or more received message as a request for a second compound service constituent to the compound service (an Analysis service ... output; section 56; page 5).

21. As to claim 32, see rejection of claim 10 above.

22. Claims 2, 9, 12, 19, 22 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Devine et al (U.S. 2002/0095399 A1) in view of Grau (Analysing object specification for execution).

23. As to claim 2, Devine does not teach wherein the dependency information specifies the sequence as a directed graph and the step of coordinating execution of the plurality of modules in the sequence includes coordinating according to information represented by the directed graph. Devine teaches a mechanism for ensuring that the constituent services comprising a composite service are executed in the correct order is provided (section 510, page 30). Grau teaches the dependency information specifies the sequence as a directed graph and the step of coordinating execution of the plurality of modules in the sequence includes coordinating according to information represented by the directed graph (In this specification ... causes the dependency; page 3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Devine and Grau because it provides an alternative method to ensure the correct execution of applications.

24. As to claim 9, Devine does not explicitly teach the dependency information specifies a sequence in which a conditional module must be executed to perform the compound service and the step of coordinating execution of the plurality of modules in the sequence includes coordinating execution of the conditional module to determine which module to execute next based on a condition status. Grau teaches a conditional module is executed to determine which module to execute next based on a condition status (In this specification ... checked; page 3).

25. As to claims 12 and 19, see rejections of claims 2 and 9 above.

26. As to claim 22, see rejection of claim 2 above.

27. As to claim 31, see rejection of claim 9 above.

28. Claims 6, 16, 23-25, 27 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Devine et al (U.S. 2002/0095399 A1) in view of Meltzer et al (U.S. 6,542,912 B2).

29. As to claim 6, Devine does not explicitly teach wherein the dependency information specifies a sequence in which a transformation module must be executed to perform the compound service and the step of coordinating execution of the plurality of modules in the sequence includes coordinating execution of the transformation module to transform information

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received by the transformation module from a first data structure to a second data structure.

However, Devine teaches means of using XML as the data interchange format (section 473, page 28). Meltzer teaches the transformation module to transform information received by the transformation module from a first data structure to a second data structure (col. 14, line 62 – col. 15, line 17). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Devine and Meltzer because it well known advantages have been realize in the art and apply them to share data in the heterogeneous computing system.

30. As to claim 16, see rejection of claim 6 above.

31. As to claim 23, Devine does not explicitly teach the request received by the compound service execution adapter is converted to an XML file by the compound service execution adapter. However, Devine teaches means of using XML as the data interchange format (section 473, page 28). Meltzer teaches the transformation module to transform information received by the transformation module from a first data structure to a second data structure (col. 14, line 62 – col. 15, line 17). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Devine and Meltzer because it well known advantages have been realize in the art and apply them to share data in the heterogeneous computing system.

32. As to claim 24, see rejection of claim 6 above.

33. As to claim 25, Devine as modified (Meltzer) teaches the received message information is an XML message and is transformed by applying an XSLT stylesheet to the XML message (col. 14, line 62 – col. 15, line 17 and col. 22, lines 50-61).

34. As to claims 27-29, see rejection of claim 25 above.

35. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Devine et al (U.S. 2002/0095399 A1) in view of Grau (Analysing object specification for execution) further in view of Meltzer et al (U.S. 6,542,912 B2).

36. As to claim 33, see rejections of claims 1, 2 and 6-9 above.

Conclusion

37. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Srivastava et al (U.S. 2002/0120685 A1) teaches system for dynamically invoking remote network services using service description stored in a service registry.
- Li et al (U.S. 2004/0205613 A1) teaches transforming data automatically between communication parties in a computing network utilizing a set of transformation services.

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38. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Diem K. Cao whose telephone number is (571) 272-3760. The examiner can normally be reached on Monday - Friday, 5:30AM - 2:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Thomson can be reached on (571) 272-3718. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any response to this action should be mailed to:

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist at 571-272-2100.

Diem Cao


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